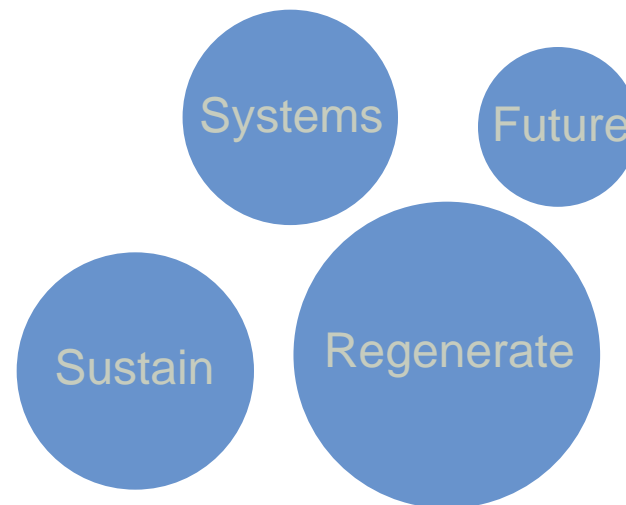


REGENERATING LONG HILL TOWNSHIP



REGENERATING **LONG HILL TOWNSHIP**

STUDENTS

ALEXANDER BARRON

ANDREW BESOLD

JENNIFER FELTIS

BETH GORDON

PHILIP GORDON

LAURA KIRBY

MEGHAN LEAVEY

REBECCA MARSHALL

MICHAEL MCCARTHY

MATTHEW MONROE

ADAM PASZKOWSKI

SEAN QUINN

STEVEN RAINEY

DAVID SCHMETTERER

FACULTY

CLINTON ANDREWS AND ANTHONY SBLENDORIO

ENVIRONMENTAL PLANNING STUDIO

EDWARD J. BLOUSTEIN SCHOOL OF PLANNING AND PUBLIC POLICY

RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY

[HTTP://POLICY.RUTGERS.EDU](http://policy.rutgers.edu)

SPRING 2007

TABLE OF CONTENTS

Acknowledgements.....	3
Executive Summary.....	4
Mission Statement.....	6
Water.....	7
Valley Boulevard.....	9
Ecotourism.....	12
Villages.....	14
Connectivity.....	16
Signage.....	18
Conclusions/Recommendations.....	19
Appendix A: Pedestrian Shed Along Valley Road.....	20
Appendix B: Proposed Bike Routes.....	21
Appendix C: Proposed Gillete Connections.....	22
Appendix D: Proposed Millington Connections.....	23
Appendix E: Proposed Meyersville Connections.....	24
Appendix F: Sidewalk Plan.....	25

ACKNOWLEDGEMENTS

We appreciate the time and interest devoted to this project by the mayor, other officials, professional staff, and interested residents of Long Hill Township, especially George Vitureira, Chris Connor, Len Hamilton, and Kevin Sluka. Thanks also to Steven Rice at Morris County for GIS data. We thank Ed Croman, Bruce Merengolo, Peter Falzarano, and Walter Carell for their insightful visits to our class.

EXECUTIVE SUMMARY

This report offers ideas for residents of Long Hill to consider as they think about the Township’s future. The ideas come from a graduate studio class in urban planning at Rutgers’ Edward J. Bloustein School of Planning and Public Policy. This report describes how the students have approached their topic and what they recommend.

In the Spring semester of 2007, Rutgers students studied the Township of Long Hill, New Jersey using an innovative approach to sustainability planning termed regenerative design. Throughout the semester the students had the opportunity to meet with members of the town council, planning board and other interested citizens to discuss the visions and needs of the Township. Through discussions, research sessions, and observational analysis, class members familiarized themselves with the Township and the integration of an environmentally sensitive regenerative approach to design.

The students were responsible for determining a process by which to recommend suggested concepts based upon the idea of regenerative design. Each time the class proposed an idea, they examined its relationship to vital interests identified for the town and its residents as well as the principles of regeneration.

Regenerative design is an evolutionary advance on sustainable design, and its goal is to modify natural and built systems so that, first, they do not deplete natural resources, and second, actually generate benefits to improve upon initial conditions.

For example, something as simple as a sidewalk serves as an example of a regenerative design opportunity. Its basic purpose is to allow an individual to walk from one place to another safely, and without getting their feet muddy. However, a sidewalk designed with regenerative design principles accomplishes more than this basic task. A sidewalk can be designed with special materials to help control stormwater. Sidewalk art makes walking interesting, encouraging

people to leave their cars home, and transforms a walking experience into an educational experience. As more people use sidewalks, social opportunities arise, which are further encouraged through the placement and utilization of benches and small parks. Sidewalks have the potential to be more than a pedestrian connection by using regenerative design principles.

For this study, the class focused on the categories of the Water systems of Long Hill, a portion of the Valley Road corridor, Ecotourism, the Villages that compose Long Hill with marked importance on community identity and infill development, Connectivity, which includes pedestrianism, cycling, and neighborhood connections) and Signage.

Water Management:

Long Hill Township is surrounded by large natural water systems and flooding is a significant issue. Currently, the Army Corps of Engineers has a levee system planned for the Township. In addition to this plan, the class suggested the Township invest in and utilize additional natural wastewater treatments. These treatments include but are not limited to wastewater wetlands, waterscaping, and investigating the use of a nearby quarry to retain excess water during heavy rain occurrences. These design elements are suggested to not only provide for the current needs of Long Hill’s residents but also future residents.

From Valley Road to “Valley Boulevard”:

The discussion of water connects to Valley Road whose subject matter includes flooding, traffic, and pedestrian issues experienced within the corridor. These issues, while individually important to residents, also affect local commercial establishments. In order to control stormwater within the Valley Road area, the use of permeable construction materials, as well as water-absorbing natural features such as rain gardens and constructed wetlands has been suggested. Additionally, these features will beautify the area, turning Valley Road into an enjoyable, walkable boulevard with connected sidewalks that

will provide a unique opportunity to promote alternative travel choices to business patrons and promote the environmental features naturally found within Long Hill Township.

Ecotourism within Long Hill Township can be developed to take advantage of its unique location along the Passaic River and near to the Great Swamp. It has been recommended to increase the commercial potential of outdoor activities through ecotourism and education, in turn promoting natural resource protection. Additionally, active recreation provides benefits to the business community and supports a healthy lifestyle.

Connecting the neighborhoods and villages within the Township of Long Hill through infill development and pedestrian and bicycle paths promotes a safer, healthier community environment. Development between existing buildings will allow additional retail opportunities while maintaining a scale appropriate to each village. For example, a bakery, specialty bookstore, new cultural attraction, or nature center can complement and support current development. In addition to generating additional economic benefits for the town, infill also enhances the pedestrian experience, crafting a visually enjoyable and productive way to complete errands.



For **infill** development to be successful, pedestrian and bicycle amenity improvements are essential. A new network of sidewalks and crosswalks—the new pedestrian realm of Long Hill—should feature attractive and innovative design elements. Pedestrian improvements and comprehensive local bike routes will serve Township residents by connecting neighborhoods through a network of trails and parks providing easy and safe routes for residents to travel from place to place. These new, informal connections not only provide car-free access to neighbors and other destinations throughout the Township, but also interesting and welcoming places for kids to play and explore.

Signs are an important means to dispense information to visitors letting them know about all that Long Hill has to offer. Currently, signage in Long Hill does not tend to direct visitors to stay within the town for dining, shopping, or recreation opportunities. Signs should guide visitor and residents alike in the direction of individual villages, points of local interest, and highlight other notable features of Long Hill. The signage system can be developed with local business participation, offsetting the cost of implementation by providing advertising opportunities and demonstrating commitment to Long Hill's future.

In April of 2007, the graduate environmental planning studio class presented these ideas in greater detail to the Township, during a daytime meeting attended by Long Hill's residents. The meeting commenced with a presentation by the class followed by a discussion session in which the residents were able to interact with the studio class and provide valuable feedback. The following report is the result of a semester-long research effort on the Township of Long Hill, and imparts ideas on how to incorporate regenerative design into long-term planning goals. By building on the Township's strengths, this report provides unique strategies that not only limit the damage to the town's social, economic, and natural systems, but also rebuild or regenerate them, both now and for the future.

MISSION STATEMENT

Adopted by the Rutgers Urban Planning Studio Class

Using the framework of regenerative design principles, identify and recommend a set of alternatives to enhance the distinct character of Long Hill Township with respect to the town’s social heritage, economic resources, and environmental systems.

The regenerative process is not just a means of employing sustainable designs, but forming new approaches and outlooks integrating valued ideals and resource elements that are engaged with on a daily basis. The relationships connecting these elemental systems and those who use them not only sustain but also improve upon themselves over time benefiting all involved.

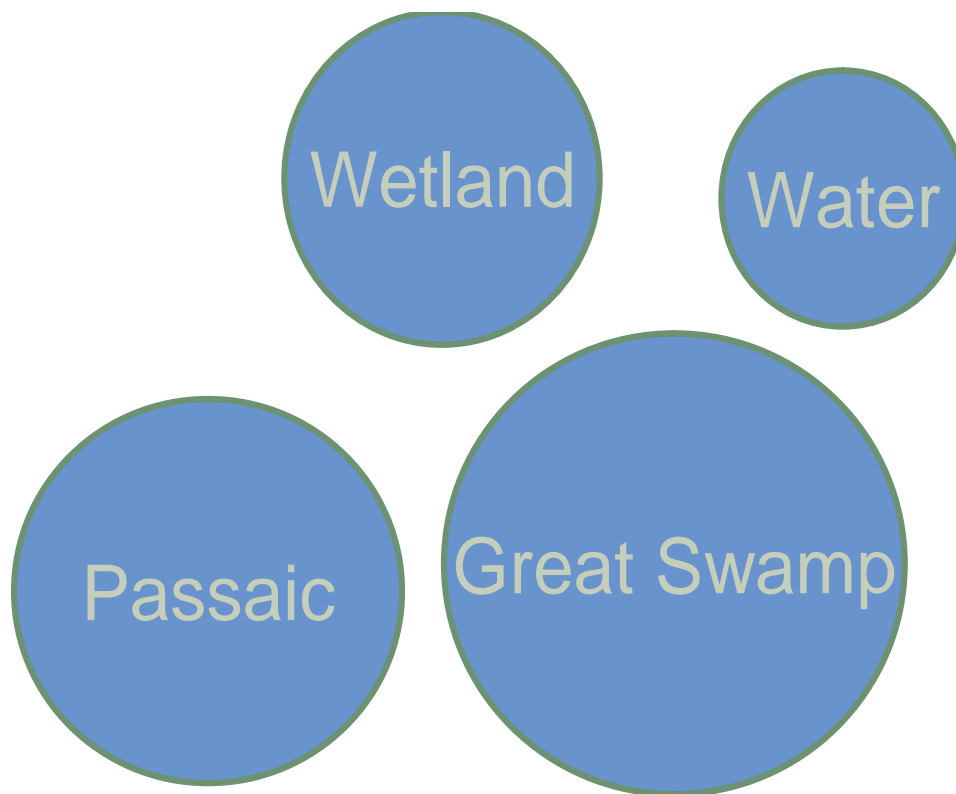
WATER

One of the defining features of Long Hill, its water, also provides opportunities for regenerative design. Specific areas have been identified where regenerative design can solve problems Long Hill has in relation to its water systems.

The sewer system is a primary water-related challenge for Long Hill today. Development in Long Hill is currently under moratorium due to the sewer system being at 85 percent capacity, and being over capacity during rainstorms due to rainwater infiltrating the system. Estimates for repairing the current sewer system run in the millions. The wastewater wetland is suggested as a natural system for wastewater treatment. Wetlands are nature's water filter. They break down waste, as well as filter pollution, returning clean water to the environment. They also help to absorb storm-water, and provide habitat for wildlife, similar to that of the Great Swamp. Additionally, Long Hill has a great deal of land currently in floodplain that may prove to be useful for this type of water treatment. Even with all of these benefits, construction and maintenance of a wastewater wetland will be less expensive than traditional wastewater treatment methods.

The second issue is that of flooding, for which two recommendations are provided for further exploration. The first is to utilize the old quarry just northwest of town as a detention system, diverting the fast-moving Passaic River current coming down the Watchung from pooling below Valley Road and causing a flood. This water can also have many secondary uses, one of which would be to provide a source of drinking water for Long Hill, precluding the need to purchase imported drinking water, which is the current practice.

Rainwater from the southern slope of the Watchung Mountains as well as overflow from the Passaic floods a great deal of the Township, including the Valley Road Corridor. To counter this, the Army Corps of Engineers is planning to break ground in December 2007 on a levee system, which has an estimated lifespan of fifty years. The plan also includes the restoration and enhancement of existing wetlands. It is believed that the levees will be effective for their lifespan, but that by applying regenerative design principles, more can be accomplished.



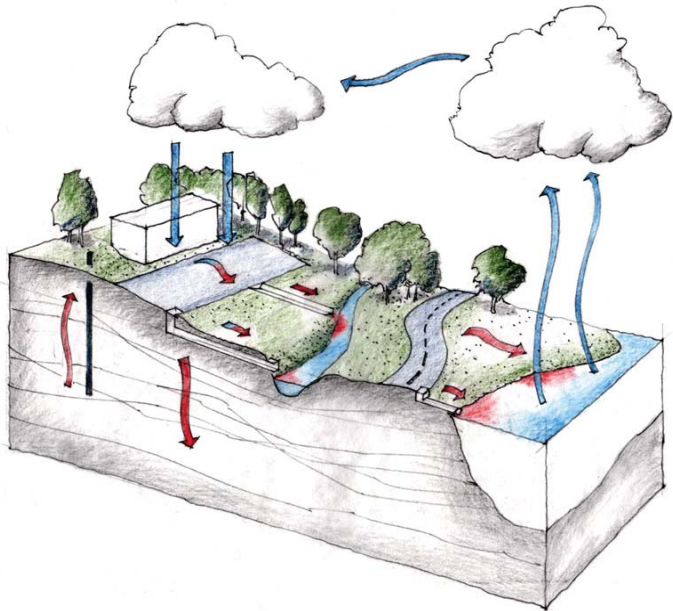
The second recommendation would be to augment the Army Corps’ design with more wetland restoration around the Passaic and in town, as well as channeled streams, which can control Passaic overflow and use it for the purposes of waterscaping. This is a plan that would last for a significantly longer span of time than 50 years. Waterscaping is landscaping with water, which would not only provide stormwater management, but also unique and natural features that Long Hill residents will benefit from in many ways.



Passiac River



Road Flooding



The Water Cycle

VALLEY BOULEVARD

We recommend that Long Hill transform Valley Road into a functional and attractive “Valley Boulevard.” The area of town that suffers the most when the Passaic River becomes flooded is the area that everyone in town uses, namely Valley Road. By taking physical control of stormwater along Valley Road, Long Hill will be able to create a beautiful place that supports the town environmentally, economically, and socially. Army Corps levees are one method of limiting flooding, but other alternatives may have greater impact on Long Hill’s downtown.

Three design features that will improve stormwater management in Long Hill are permeable surfaces, rain gardens and bioswales. Permeable surfaces allow runoff to become part of the ground water cycle, reducing water pooling and keeping sidewalks in better condition. These permeable treatments can be used for gutters and bike lanes, as well as at raised crosswalks. Permeable surfaces not only allow water to properly return to the water cycle, they also reduce maintenance costs while improving the aesthetic appearance of the street.

Rain Gardens are shallow depressions that collect water running off from impervious surfaces such as parking lots and roofs. The gardens are inexpensive to create and can be easily maintained. In Long Hill, rain gardens can be placed adjacent to individual stores or strip malls along Valley Road as a creative solution to stormwater management.

Bioswales are landscaped depressions that collect surface runoff and remove pollutants through natural processes before water re-enters its own cycle. Bioswales could be incorporated into the streetscape by locating them alongside the roadways, as a buffer between the sidewalk and the street. They would also serve well in bumpouts at major street intersections. Bioswales are nothing new to Valley Road. Cyclo-rama, the bike shop on the corner of Valley Road and Main Street, has one that is certified by the World Wildlife Foundation, and has successfully decreased flooding in the store’s parking lot.



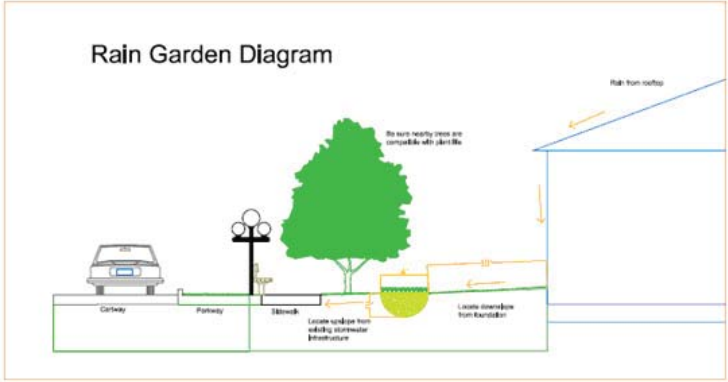
Commercial Establishments with Parking Behind

Incorporating these features with new and old development along Valley Road will transform it into a boulevard as well as calm traffic and beautify the corridor. By creating a median, the Township can bring local plant life to its main thoroughfare, slow the speed of traffic driving down Valley Road, and make it easier to cross the street. In addition to permeable surfaces, rain gardens and bioswales, Long Hill could bring the unique species of the Great Swamp to the new Valley Boulevard to create an integrated, “one of a kind” Main Street. The convergence of the swamp and Valley Road would provide a visual connection that can link Long Hill’s commercial corridor to its natural features. This will remind residents and visitors alike of the environmental identity so characteristic of Long Hill Township.

Rain Gardens

Rain gardens are attractive and inexpensive way to manage excess stormwater runoff during normal storm events. Larger retention practices are best suited to control larger events such as 10 and 100 year floods, but rain gardens still play an essential role. These bio-retention devices, which may be maintained as easily as any front yard garden, help catch rainwater from impervious surfaces while allowing the water to naturally absorb into the soil. The gardens could be placed in the front lawns of existing business or in vacant lots, which could be landscaped as pocket parks. Once complete, the gardens can be manicured or allowed to grow wild for a more natural look. Weeds should be controlled in both cases, doing this by hand will have less environmental impact than the application of herbicides.

Local plant species thrive in rain gardens and provide a new habitat for birds, butterflies, dragonflies, and other insects, creating a unique landscaped atmosphere along any road. The biggest fear is that gardens such as these will introduce mosquitoes. In general this should not occur unless water sits for an unusually long period of time, 3 days or more. Examples of rain gardens can be found in Highland Park, New Jersey where the city is currently constructing a large rain garden which received financial assistance from several state departments, including the DOT and the NJ Green Acres program. The rain garden will help control flood and stormwater in the city and will be integrated into a passive recreation park that doubles as a gateway treatment for the town. More in depth information about bioretention considerations can be found at: www.raingardens.org/docs/bioretention_tools.pdf.



The first streetscape improvement that can transform Valley Road into a real Main Street is completing a pedestrian network to link sidewalks to the places people need to walk. This idea of connectivity is a subject unto itself that receives more attention later in this report. Landscaping sidewalks with street trees and local plants beautifies the walking path and encourages shoppers to walk between nearby stores. Interesting streetlights can enhance the walking experience while increasing visibility in evening hours.

In a town as unique as Long Hill, it is important to emphasize these distinguishing features in a permanent, inventive way. One simple idea to incorporate in the creation of a "Valley Boulevard" is public art. Local artists, children's classrooms, or groups of adults in Long Hill can create original designs to bring art into the town in the form of mosaics, engraved concrete pavers, wall murals, or ceramic sculptures.



Valley Boulevard with Bioswales and Store Fronts at Sidewalk

The retail establishments on Valley Road serve the basic needs of Long Hill residents and consumers from surrounding areas. However, they do not serve every need, particularly in regards to entertainment or culture. The physical environment of Valley Road could be enhanced with a series of streetscape components, which would improve the shopping, dining, and working experience. Streets that people want to walk along will inevitably become the streets that people want to shop on. The inherent sense of safety on a bustling main street, available benches and pocket parks to sit in where Long Hill's families can congregate, are the features that will attract businesses to locate on Valley Road.

To complement the beautification of the Township, and to distinguish Long Hill from its bordering suburbs, Long Hill should establish gateway entrances, serving as signature pieces along Valley Boulevard to welcome both residents and visitors. Long Hill can create a unique gateway treatment for the areas along Valley Road to the west at Main Street and to the east at Morristown Road. The gateway at Main and Valley should incorporate flood mitigation treatments by using pervious surfaces for the crosswalks and roadways and the plant feature discussed earlier. Incorporating street furniture, such as benches and seating areas, along the road would provide a break for employees, shoppers, seniors, and children along the main street for informal social interactions.



Current Conditions allow water to pool along the sidewalks



Permeable Surfaces and Sidewalk Art allow water to seep back into the ground



Bio-swales and Concave Medians

The basic structure of bio-swales and concave medians include a slight depression below grade which serve as bio-retention areas for storm-water runoff. Many of the same principles of rain garden construction apply to bio-swales, usually at a larger scale. Bio-swales incorporate a more complex system of drainage to direct standing water off of surface lots. Concave medians work in the same way but are placed in between travel lanes of a roadway. The following pictures show the components of the bio-retention swale on Main Street at the Cyclorama bike shop.

Eco-Tourism



Arrowhead Flower

Long Hill is a unique town nestled within the boundary of Route 287 in the New York Metro area. Nowhere within the Manhattan commuter shed does a municipality share immediate access to New York via road and rail, while simultaneously maintaining the rural character. The utilization and conservation of natural resources represent opportunities to integrate regenerative design principles by enhancing ecotourism.

Utilizing a natural resource for ecotourism provides additional incentives towards preservation. Outdoor activities like bird watching, kayaking, and nature-centered summer camps can be utilized to increase ecotourism, education, and business opportunities.

The Long Hill Recreation Advisory Committee offers a one-day kayak lesson on Stirling Lake. Expansion of this program to attract out of town visitors would help establish Long Hill as a canoe and kayak destination in the metropolitan area nearer to New York than the Delaware Water Gap. Currently there are existing launch points for kayakers within Long Hill providing access to the Passaic River, however they are difficult for visitors to locate.



More launch points, and interpretive nature signs along the river including interesting details would provide visual interest to boaters. Integration of a guide and rental service to meet tourists at the train station, supply necessary gear, guide them downstream and provide return transportation would encourage new business opportunities and enhance existing establishments within the township.

Long Hill currently offers a youth recreation program running from 9 a.m. to 1 p.m. during the summer, located within the Central and Millington Schools. Meyersville, labeled the gateway of the swamp, is as a potential site for a summer camp program and corresponding environmental center. Expanding the existing Township recreation opportunities to include outdoor activities in the Great Swamp and Passaic River areas serve to heighten children's awareness of the uniqueness of the environment in their back yards. Additionally, an expanded summer program serves as an employment option for teenagers, and attracts campers from neighboring communities.



The environmental center can also serve as a meeting place for community functions and can be a starting point for bird watching and other nature tours. By encouraging both residents of Long Hill and ecotourists to enjoy the Great Swamp and the Passaic River, business traffic will increase and new opportunities will emerge, which will increase the non-residential tax base of the Township.

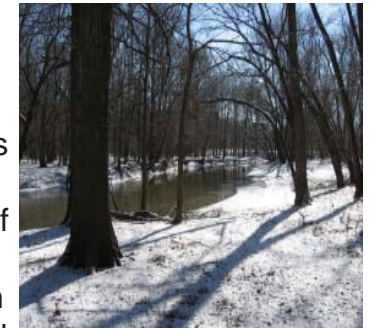
The people of Long Hill take pride in their community. Therefore, it is imperative that citizens assist in the creation of a comprehensive ecotourism plan for the benefit of Long Hill. Establishment of an ecotourism plan could perpetuate regenerative design ideals and promote the conservation of natural resources.



American Goldfinch

A Morning in Long Hill, New Jersey

For the moment, let's paint you a picture of what we envision a weekend morning in Long Hill could be like. You park your car at the library to drop off your child or grandchild for children's story hour before walking over to Blockbuster to return the movie you rented last night.



You then walk over to Dunkin' Donuts to pick up some coffee before taking a seat on a bench under the shade of a tree for a casual conversation with your neighbor who just got back from a vacation. After picking up your child from storytelling, the two of you take a stroll along the Passaic River, stopping to read about the birds and other wildlife that share Long Hill with you.

VILLAGES

Community Identity

With the focus on ecotourism comes the potential for the development of a new identity for Long Hill. This will be the unified face the Township shows the world. It should focus on the nature Long Hill Township has in common. Development of this identity should involve the townspeople, from the youngest child to the most senior citizen. It may include a community emblem, a motto, an official bird or flower, or anything the people of Long Hill decide is important to let the world know who they are.

In particular, creating a community emblem for Long Hill is a great way to give a recognizable identity in a symbol that is used repeatedly around town and by surrounding communities. An appealing emblem can help communities compete for visitors, economic development, and the arts— everything that makes a community profitable and desirable. At its best, a community’s emblem displays the source of its pride, creating an emotional connection with people that makes them want to spend their money, their time, even their lives there.



Infill

The four villages that make up Long Hill Township are a source of identity and pride among residents. Stirling has its shops and the Stirling Hotel, Millington has its history, Meyersville is the gateway to the Great Swamp, and Gillette is home to the retail center of Valley Road, and the new municipal center. These special identities should not be diluted. In fact, applying regenerative design can support the development of the village identities.

Opening up land within the town center would encourage their unique identities to more fully develop. Although 95 percent of the town is developed, there are some locations with vacant or underutilized land. One recommendation is to look at infill development as a way to make better use of this land and the space between buildings—appropriate and selective infill development can enhance and intensify the town centers of the villages without destroying what makes the towns so great.

Developing between existing buildings will allow additional retail opportunities on a scale appropriate to the towns. A bakery, a specialty bookstore, a new cultural attraction, or a nature center can complement and support current development.



Filling in the gaps between buildings will also improve the pedestrian environment, making it more enjoyable and interesting to walk down Main Avenue in Stirling. Additionally, it will provide gathering places, and small parks for socializing, or just relaxing. Infill does not only refer to the construction of buildings, but also to the addition of community open spaces, like playgrounds, picnic areas, and dog parks. Many communities gather for outdoor movies and theater, dances, farmers markets, art exhibitions, and street fairs. Residents gain cultural and social opportunities and businesses get another way to attract customers, and all in a way that supports the rural character of Long Hill, adding to its vibrancy and supporting its strong roots.

Helping to support these new businesses in the town centers would be a moderate amount of new residential space, particularly near the rail stations and the village centers. Providing apartment housing geared towards commuters, young workers, and senior citizens is an effective way of providing attractive, affordable housing for these groups—for those both in Long Hill now and new residents from outside—without overburdening its schools and other infrastructure.



Infill development around transit is a natural choice for a Township with three train stations. In addition to housing and retail serving the residents and businesses of Long Hill, there will be other opportunities to serve the visitors drawn to the area by our recommendations for ecotourism. This could take the form of shops, a visitor center with a shuttle service linking the train stations to the Great Swamp, and bicycle facilities to serve the entire town.

Most importantly, it will help to keep the people of Long Hill in town, reducing travel to other towns for things like fresh baked Italian bread. Keeping the people of Long Hill at home also means keeping dollars in town too. Local businesses will have more opportunities to support each other, residents will spend their money in town more often, and everyone will save money on gasoline. Further, the additional support to local businesses will increase the non-residential tax base.

The regenerative capability of infill is astounding; it takes an underutilized resource—the land between buildings—and gives it the capability to earn money for residents, taxes for the town, save money and time on transportation, and generate more opportunities to interact with neighbors close to home.

CONNECTIVITY

Since part of the plan involves keeping the residents of Long Hill at home, and inviting ecotourists to enjoy the natural resources the town has to offer, the plan indicates recommendations that will help people move around in Long Hill, in some cases without requiring the use of a car.

There are three key goals underlying pedestrianism in Long Hill: safety, access, and education. With these goals in mind, the current pedestrian environment was examined and key recommendations were made that will help to create safe, welcoming, and attractive pedestrian spaces. These pedestrian spaces will provide access throughout the town. Currently, sidewalks and crosswalks in Long Hill are incomplete, discontinuous, or even non-existent. This lack of walkability and connectivity makes it difficult to travel between destinations within the Township without using a car. Naturally, this is most problematic for those who cannot drive or do not own cars—most often seniors and children – but it does impact others by requiring excess driving that can be costly in terms of time, money, and the environment. The creation of continuous sidewalks and enhanced crosswalks in key locations throughout the Township will connect schools, parks, commercial corridors, residential areas, and the rail stations with each other.

Improved sidewalk conditions increase pedestrian access. The path network should be used to connect destinations such as parks, school, civic facilities, and shops and services. The goal is to generate more non-motorized trips and reduce overall vehicle miles traveled. Studies have shown that the distance people will walk for typical trips vary between 400 and 1,250 feet. Well-connected pedestrian routes that offer visual interest help to make walking enjoyable. In Long Hill, more intimate connections between the shopping center and residential areas would promote overall walkability along the Valley Road corridor. Refer to Appendix F for Sidewalk Plan.

The five-minute or quarter-mile walk is the standard walking distance used in urban design. The pedestrian shed is created by establishing a predetermined distance (the five minute walk) and allocating that distance to a defined path network from a single point. For the simplicity’s sake, street centerlines were used to represent the path that sidewalks would follow. Additional line segments were added to the path network to represent potential connector paths to destination areas such as Valley Mall. The colored line segments, which depict the shed, correspond to the origin point of the same color. These points of interest were chosen to serve as public spaces along the Valley Road corridor to break up the walking distance and create areas where people can congregate and rest before continuing on to their final destination. Refer to Appendix A for the pedestrian shed along Valley Road.

This network of sidewalks and crosswalks—the new pedestrian realm of Long Hill—should also feature attractive and innovative design elements. For example, a “broom finish” concrete sidewalk increases slip resistance for pedestrians. Decorative paints and surfaces will improve the aesthetic appeal of sidewalks. Some sidewalks may look better in brick trim; in other places, colored concrete stamped to look like brick is an alternative to provide both the slip resistant texture of a concrete sidewalk with the aesthetic appeal of brick.



Crosswalk design elements for convenience and safety, such as countdown signals should be installed, especially where the crossing distance is large or there is a high volume of pedestrians.



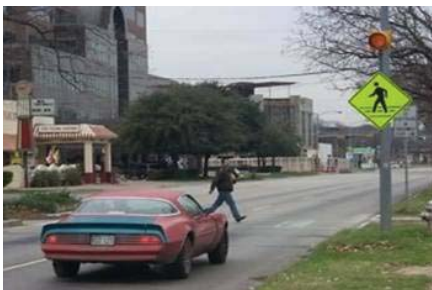
Animated Eye Light Emitting Diode (LED) Signal is a tool for reminding pedestrians to watch for turning vehicles.

Special Pavement Stencils such as “Pedestrians Look Left” or “Watch Turning Vehicles” are used in Salt Lake City, Nova Scotia, and England. These stencils significantly reduce the number of pedestrians not looking for threats at intersections. Additionally, high-visibility crosswalks help channelize pedestrians.



Reduced corner radii will slow the speeds of right-turning automobiles. The curb radius should accommodate the expected amount and type of traffic for safe turning speeds. As the curb radius increases, incomplete stops become more frequent and motorists are able to turn at higher speeds. Recommended ranges for curb radii are 15 feet for intersecting residential streets, 20 to 30 feet for non-residential local and collector intersections.

A pedestrian refuge island is a raised island placed in the center of the street at an intersection or mid-block location to help protect pedestrians from motor vehicles. Refuge islands allow pedestrians to be concerned with only one direction of traffic at a time. For example, a pedestrian can cross to the refuge island and wait for an adequate gap in traffic before crossing the second half of the street.



“Yield to Pedestrian” signs are a treatment used to remind motorists to watch for pedestrians.

Bulbouts are appropriate at locations with useable space next to the curb, and should be used at intersections of three or more lanes. The limitations of bulbouts should not extend more than eight feet into the street adjacent to parallel parking. At locations with no on-street parking, bulbouts should not impede bicycle travel. Bulbouts could be used at intersections or mid-block crossings.



Overhead signs and flashing beacons, showing the universal pedestrian symbol, can hang from a mast arm that extends over the street, alerting motorists of pedestrian traffic.

In-pavement Flashers installed on the street will heighten the visibility of the crosswalk, directing pedestrians towards the location of the designated crossing location, and notifying motorists of pedestrian traffic.



By incorporating safe and attractive sidewalks and crosswalks throughout the Township, there will be an increase of pedestrian access throughout Long Hill Township and Valley Road. Destinations in town will be more easily reachable from each other, and the need to drive between nearby locations, like various stores, can be significantly reduced. Healthy, safe, and walkable communities help cultivate the informal social interactions and connections to the natural environment that are valued in Long Hill.

SIGNAGE

What needs to be done to keep the visitors in town? Current signage directs drivers and their wallets to destinations such as Chester and Madison. Instead these visitors should be enticed to find out what dinner or entertainment opportunities are just around the corner. For example, when a hiker leaves the Great Swamp after an afternoon of bird watching, a sign should inform him or her that they do not need to travel far to grab a bite to eat. If they make a left they will head into historic Meyersville for some authentic Mexican food. To best maximize the benefits of the newly proposed shopping and recreation opportunities, a series of unique directional signs will be needed. These signs will point visitors and residents in the direction of each village, to various points of interest and to the many amenities that Long Hill has to offer. Now instead of being a stop on the way to somewhere else the town becomes the beginning and end.



The signs will also function as village identifiers to mark the beginning and end of each village. When developing the signs a symbol should be created for each village. Perhaps a mill wheel can represent Millington, but only Long Hillians can really know how to best identify each village therefore a Township wide design competition should be held to determine the village identifiers.

Developing this system should be done hand in hand with local businesses. They can help to offset the cost of implementation by providing sponsorship. This allows them to advertise while demonstrating their commitment to the Township's future. And of course it will help to drum up business.

Ultimately the signs can help to dictate a day of activity while at the same time instilling a sense of pride for ones village. Driving through Long Hill, an out-of-towner will get a sense of what the town is all about, realizing that it is more than just another New Jersey strip mall but a place where the nature and the water have come together to form someplace unique.



CONCLUSIONS/RECOMMENDATIONS

By studying Long Hill Township, we learned a great deal about the Township, its people, and its environment. Using a regenerative design framework, we developed alternatives to enhance Long Hill and to turn potential liabilities, like water and congestion, into assets. We hope that this comprehensive, in-depth approach can become the Long Hill way of thinking when dealing with planning, developing, and preserving Long Hill. Some of the most important concepts that go beyond a single idea or alternative are:

- *Build on the incredible resources of Long Hill*

As we studied and go to know the Township over the course of the semester, we found an abundance of natural, historical, and social resources in Long Hill. In the spirit of regenerative design, we encourage the identification and appreciation of both past and present resources and the leveraging of these resources to create Long Hill's future. Examples include the development of eco-tourism opportunities like kayaking, the enhancement of educational and recreational opportunities in support of the natural environment, and new management techniques for floodwater and wastewater.

- *Consider a phased approach to implementing improvements*

Although we have presented many new ideas, they do not all have to be implemented together. A phased approach to introducing these new ideas to the Township can make improvements more financially and politically feasible. Using the regenerative design framework, each phase can build on the previous phase to continue to enhance the community.

- *Modify planning documents and ordinances to permit and encourage regenerative principles*

In order to encourage facilitate innovative new ideas and solutions, the Township must update its Master Plan, Zoning Code, and other ordinances to allow and support regenerative principles. For example, ordinances would need to allow, encourage, or require new wastewater management techniques, sidewalks, or permeable surfaces.

- *Establish identity and connectivity throughout Long Hill via community events, signage, and bicycle and pedestrian improvements*

Building identity itself can and should be an event that involves every citizen, young and old. This identity must support the four individual villages, highlighting the many assets each has, as well as the greater Township and the values that tie Long Hill together. Signage can use and promote identity throughout the Township while also providing valuable direction for residents and visitors. Also connecting Long Hill should be accessibility improvements in bike routes and sidewalks so that residents of all ages can connect with local businesses, neighbors, and the greater region.



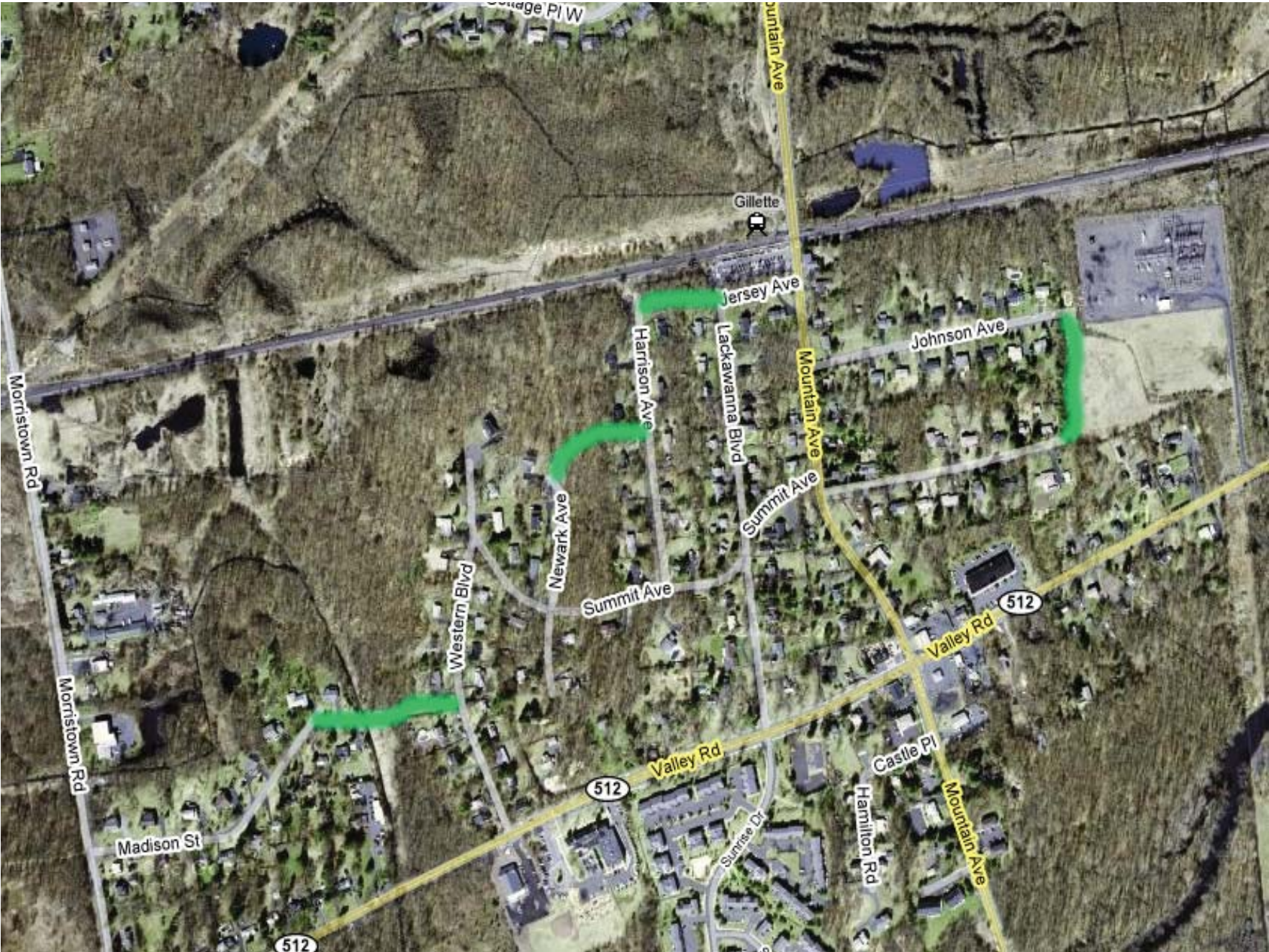
APPENDIX A: PEDESTRIAN SHED ALONG VALLEY ROAD



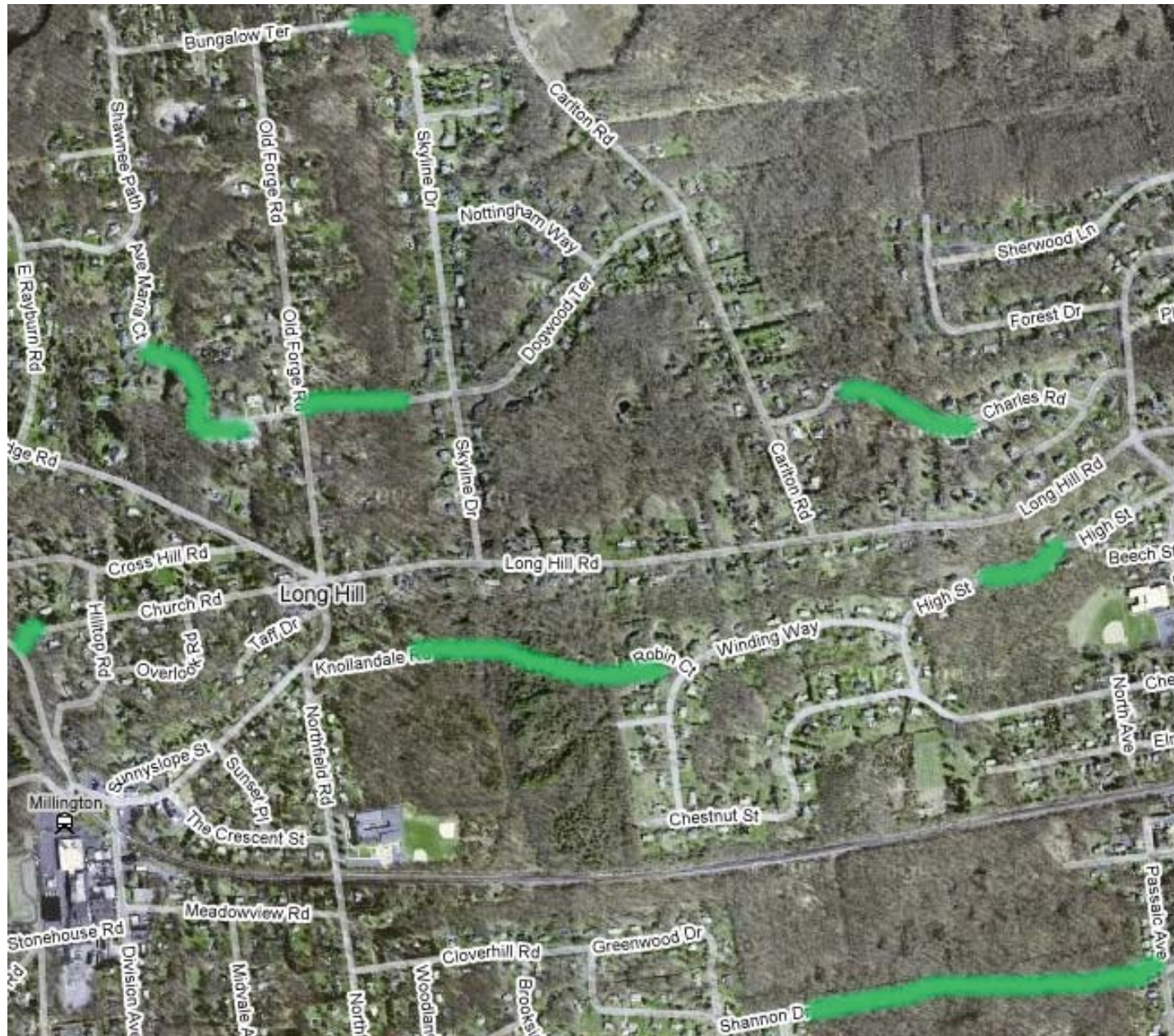
APPENDIX B: PROPOSED BIKE ROUTES



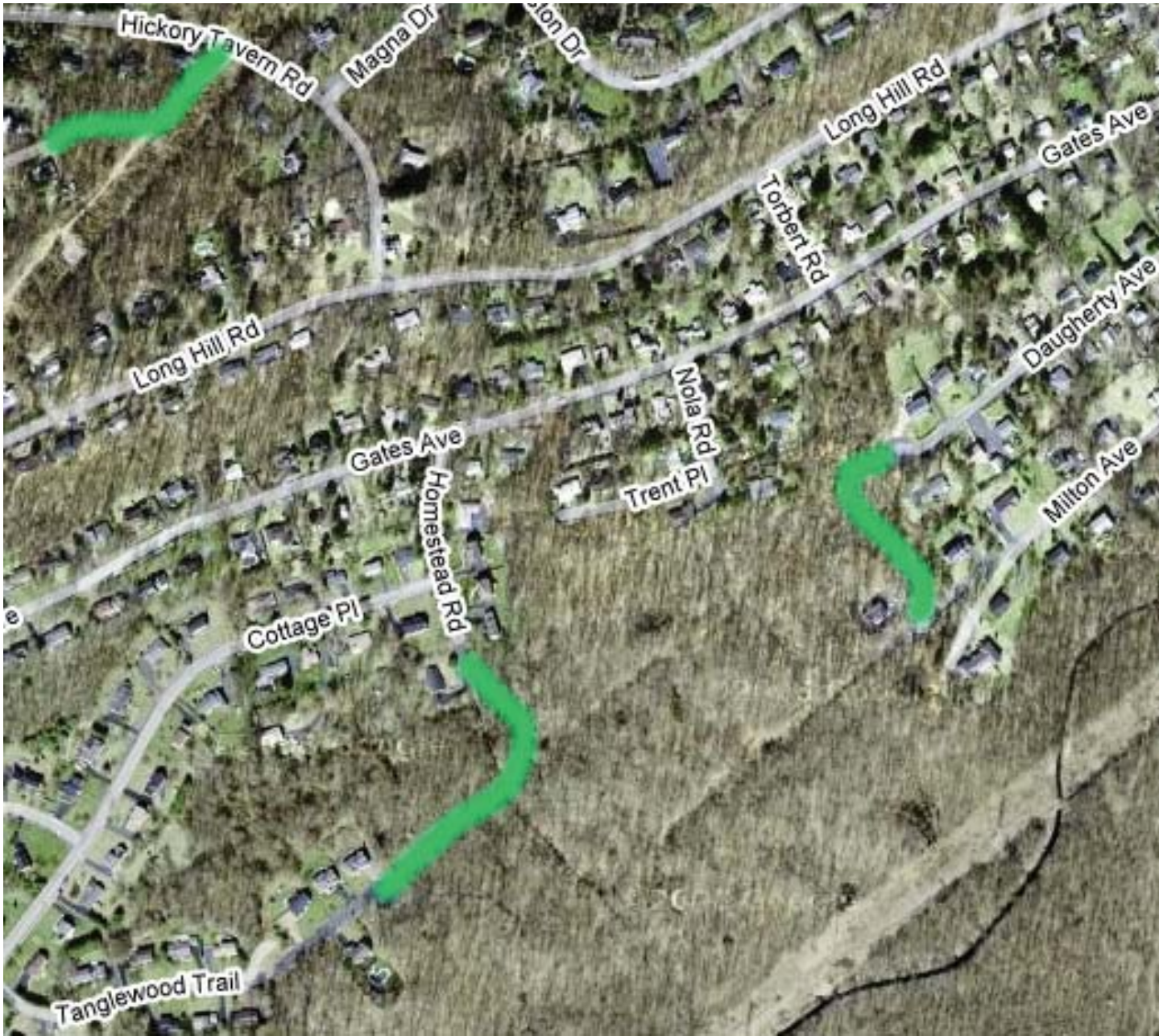
APPENDIX C: PROPOSED GILLETTE BIKE-PED CONNECTIONS



APPENDIX D: PROPOSED MILLINGTON BIKE-PED CONNECTIONS



APPENDIX E : PROPOSED MEYERSVILLE BIKE-PED CONNECTIONS



APPENDIX F : SIDEWALK PLAN

